

Claims

1. A method for coding an audio signal to obtain a coded bit stream, comprising the following steps:
  - (a) transforming discrete-time samples of the audio signal into the frequency domain to obtain spectral values which represent the audio signal;
  - (b) coding the spectral values with a code table having a limited number of code words of different length to obtain spectral values coded with code words, the length of a code word which is assigned to a spectral value generally being that much shorter the higher the probability of occurrence of the spectral value is;
  - (c) determining a raster for the coded bit stream where the raster has equidistant raster points (10, 12, 14) and where the separation (D1) of the raster points depends on the code table; and
  - (d) positioning priority code words, which represent particular spectral values which are psychoacoustically important compared to other spectral values, in the raster so that the start of each priority code word coincides with a raster point.
2. A method according to claim 1,  
  
wherein a plurality of windows is used, whereby a plurality of sets of spectral values results, where each set of spectral values comprises the complete spectrum; and

wherein the following step is also performed before the step d):

defining code words which code spectral values of the same frequency from the respective sets to be priority code words.

3. A method according to claim 1 or 2, wherein a code word of the code table codes a plurality of spectral lines, the spectral lines being combined into groups or units in such a way that the number of spectral lines in a group is divisible by the plurality of spectral lines which a code word codes.
4. A method according to claim 3, wherein various code tables with different dimensions, i.e. spectral lines per code word, are used, a unit having  $n$  spectral lines, where  $n$  is a common multiple of all the dimensions which occur.
5. A method according to one of the claims 1 to 3, wherein the code words which code the spectral lines of the sets of spectral values which are assigned to low frequencies are defined to be priority code words.
6. A method according to claim 5, wherein the step of defining also includes the following step:

placing the code words in sequence in a sort table, priority code words being code words in the front part of the sort table and therefore more likely to be positioned on raster points than code words further back in the table, in such a way that the sequence of code words in the sort table constitutes a priority distribution within the code words, thus producing priority code words;

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successive positioning of the code words from the sort table on raster points until no raster points are left;

positioning the remaining code words from the sort table at locations in the raster which are still unoccupied.

7. A method according to one of the preceding claims, wherein priority code words are code words which code spectral values with low frequency and/or high energy.
8. A method according to one of the preceding claims, wherein the distance between the raster points is somewhat smaller than, equal to or greater than the longest code word of the code table or is equal to or greater than the longest code word actually appearing in the bit stream.
9. A method for coding an audio signal to obtain a coded bit stream, comprising the following steps:
  - (a) transforming discrete-time samples of the audio signal into the frequency domain to obtain spectral values which represent the audio signal;
  - (b) grouping the spectral values into adjacent spectral sections, each spectral section having at least one spectral value;
  - (c) assigning at least two different code tables from a predetermined number of code tables to two different spectral sections, a spectral section having assigned to it that code table which is best suited for coding the spectral values in the spectral section;
  - (d) coding the spectral values from the spectral sections with the code table which is assigned to the corre-

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